

### Amendment to the Specification

Please replace 3<sup>rd</sup> paragraph on page 4 with the following paragraph:

“Fig. 4 are sequences of pMLP1 *attP* (region containing the *attP* site) (SEQ ID NO: 10), *M. carbonacea attB* region (SEQ ID NO: 4), pSPRH840 *attB/attP* left juncture region(SEQ ID NO: 5), pSPRH840 *attP/attB* right juncture region(SEQ ID NO: 6), (labeled a-d, respectively). Regions of *attP*, *attB*, *attB/attP* sharing homology are indicated by bold larger sized font. 4a, pSPRH840 *attP* site indicated by large bold font; 4b, *M. carbonacea attB* site indicated by large bold font. Arrows indicate: a, *attP* (pSPRH840 attachment site); b, *M. carbonacea* tRNA-His gene and *attB* site; c, pSPRH840 *attB/attP* tRNA-His gene; d, pSPRH840 *attP/attB* 3' region of tRNA-His gene. Inverted repeats are indicated by small arrows.”

Please replace 4<sup>th</sup> paragraph on page 4 with the following paragraph:

“Fig. 5 are sequences of pMLP1 *attP* (region containing the *attP* site) (SEQ ID NO: 10), *M. halophitica attB* region (SEQ ID NO: 7), pSPRH840 *attB/attP* left juncture region (SEQ ID NO: 8), pSPRH840 *attP/attB* right juncture region (labeled a-d, respectively) (SEQ ID NO: 9). Regions of *attP*, *attB*, *attB/attP* and *attP/attB* sharing homology are indicated by bold larger sized font. 5a, pSPRH840 *attP* site indicated by large bold font; 5b, *M. halophitica attB* site indicated by large bold font. Arrows indicated: a, *attP* (pSPRH840 attachment site); b, *M. halophitica* tRNA-His gene and *attB* site; c, pSPRH840 *attB/attP* tRNA-His gene; d, pSPRH840 *attP/attB* 3' region of tRNA-His gene. k Inverted repeats are indicated by small arrows.”

**Remarks:**

Claims 1, 6, 8-18, 21 and 24-26 are pending. New claims 24-26 has been added to the application. Written support for new claim 24 appears in the specification, for example, in the Sequence Listing and at page 3, lines 3-6. Written support for new claims 25 and 26 appear in the specification for example, at page 3, lines 20-27; page 8, lines 21-27; and at page 20, line 23 to page 23, line 13. Only formal changes are made to the other claims that do not add any new matter to the present application.

**Election/Restriction.** Applicants acknowledge the Examiner's invitation to rejoin SEQ ID NO: 6 into the claims of the elected group. SEQ ID NO: 6 is claimed in new claim 24.

**Amendment Practice.** Applicants wish to thank the Examiner for agreeing to proceed with examination in spite of the non-compliance of the May 10, 2004 amendment. Future amendments will be in compliance with 37 C.F.R. § 1.121.

**Sequence Compliance.** The Examiner has objected to the specification, stating that the sequences appearing in the specification, at pages 13, 23 and in the figures, must be identified by a sequence identifier (SEQ ID NO:).

Pages 13 and 23, in the specification, were amended in the "Preliminary Amendment and Response to Notice to Comply with Sequence Rules" filed on July 16, 2002 to insert sequence identifiers next to the sequences.

The "Brief Description of the Drawings" section, on page 4, was amended herein to insert sequence identifiers where appropriate.

The Examiner also alleges that no sequence listing (paper or computer readable format) or sequence listing statement was ever filed in the present application. Applicants respectfully disagree. The Examiner's attention is directed to the enclosed copy of a postcard bearing a USPTO sticker acknowledging

receipt of a "sequence listing statement", a "sequence disk" and a "sequence listing paper copy" in the present application (Exhibit B). A substitute sequence listing (paper and computer readable format) and statement was submitted on July 16, 2002. In any event, to expedite prosecution of the present application, applicants herein resubmit these items.

Withdrawal of the objection is requested.

**Claim Rejections Under 35 U.S.C. § 112.** Claim 3 stands rejected because there is allegedly no antecedent support for "said polypeptide". The rejection of claim 3 is moot because the claim has been cancelled.

**Claim Rejections Under 35 U.S.C. § 102(e).** Claims 1-4, 6, 8-18 and 20-21 stand rejected as anticipated by Hosted *et al.* (US 2004/0101832). The rejection of claims 2-4 and 20 are moot since the claims have been cancelled. The Examiner alleges the claims are anticipated because both Hosted *et al.* and the instant claims disclose nucleic acids comprising an *M.carbonacea*-specific integrase gene and the cognate integration site.

Applicants submit that the rejection should be withdrawn because the claims, as amended, are not anticipated by Hosted *et al.* Moreover, rejection of new claims 25 and 26 over Hosted *et al.* is not warranted because the recited method is patentable.

The rejection of claim 1, as it relates to SEQ ID NOs: 1 and 3, is moot since the amended claim does not recite these sequences.

Moreover, the Examiner does not appear to allege that claimed SEQ ID NO: 2 (*Xis* gene) is anticipated by Hosted *et al.* The Examiner's only alleges that Hosted *et al.* discloses the claimed "integrase gene" and the "integration sites". Moreover, it is unclear where, if anywhere, in the cited Hosted *et al.* reference, that SEQ ID NO: 2 is disclosed. SEQ ID NO: 2

bears no significant sequence homology to SEQ ID NO: 176 of the Hosted *et al.* reference. As proof of the lack of sequence homology, enclosed is a BlastN output comparing the sequences (Exhibit A). In the BlastN output, the "query" sequence is SEQ ID NO: 176 of the Hosted *et al.* reference and the "subject" sequence is SEQ ID NO: 2 of the instant application.

Hosted *et al.* does not anticipate amended claim 6 because, as stated above, the reference does not disclose a polynucleotide or vector comprising the nucleotide sequence of SEQ ID NO: 2.

Hosted *et al.* does not anticipate claims 8-18 and 21, as amended, or new claims 25 or 26 because the claims specify that the vector comprises SEQ ID NO: 2. In contrast, as discussed above, Hosted *et al.* does not disclose a polynucleotide comprising the nucleotide sequence of SEQ ID NO: 2.

**Conclusion:**

Applicants submit that the amended claims are in condition for passage to allowance. Such action is earnestly solicited.

Respectfully submitted,

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